

WE CLAIM:

1. A turbine scroll retention ring for a turbine scroll assembly comprising:

a retainer ring;

a ring joggle integral to said retainer ring; and

5 a ring finger extending radially outward from said retainer ring.

2. The turbine scroll retention ring of claim 1, wherein said ring finger comprises a radially inner end portion, a radially outer end portion, and at least one finger joggle positioned between said radially inner end portion and said radially outer end portion.

3. The turbine scroll retention ring of claim 2, wherein said radially inner end portion is capable of being mechanically attached to a radial nozzle of said turbine scroll assembly.

4. The turbine scroll retention ring of claim 2, wherein said radially outer end portion is capable of forcing contact between a turbine scroll component of said turbine scroll assembly and a radial nozzle of said turbine scroll assembly.

5. The turbine scroll retention ring of claim 2, wherein said finger joggle comprises a joggle bend.

6. The turbine scroll retention ring of claim 2, wherein said finger joggle comprises a Φ angle between about 30 degrees and about 90 degrees.

7. The turbine scroll retention ring of claim 1, wherein said ring joggle comprises a joggle bend.

8. The turbine scroll retention ring of claim 1, wherein said retainer ring comprises a nickel-based alloy.

9. The turbine scroll retention ring of claim 1, wherein said ring finger is integral to said retainer ring.

10. The turbine scroll retention ring of claim 1, wherein said retainer ring has a thickness between about 0.032 inches and about 0.25 inches.

11. An apparatus for a turbine scroll assembly comprising:
a metal retainer ring;
a radially inner end portion integral to said metal retainer ring;
a first finger joggle extending radially outward from said radially
5 inner end portion;
a radially outer end portion extending radially outward from said
first finger joggle; and
a ring joggle integral to said metal retainer ring.

12. The apparatus of claim 11, wherein said ring joggle comprises a joggle bend.

13. The apparatus of claim 11, wherein said first finger joggle comprises a nickel based alloy.

14. The apparatus of claim 11, further comprising a second finger joggle positioned between and integral to said first finger joggle and said radially outer end portion.

15. The apparatus of claim 11, wherein said radially outer end portion comprises a nickel based alloy.

16. The apparatus of claim 11, wherein said radially outer end portion is capable of being in contact with an aft scroll ring of said turbine scroll assembly.

17. The apparatus of claim 16, wherein said radially inner end is capable of being in contact with a radial nozzle of said turbine scroll assembly.

18. An assembly for a turbine engine comprising:
a retainer ring;
a plurality of ring fingers, each said ring finger in contact with and extending radially outward from said retainer ring; and
5 a plurality of ring joggles integral to said retainer ring.

19. The assembly of claim 18, wherein said plurality of ring fingers comprises about six ring fingers

20. The assembly of claim 19, wherein said plurality of ring joggles comprises about six ring joggles positioned such that one ring joggle is between each pair of adjacent ring fingers.

21. A turbine scroll retention apparatus for a turbine engine comprising:

a retainer ring comprising a nickel based alloy;
a plurality of ring fingers, each said ring finger extending radially outward from said retainer ring, each said ring finger comprising a radially inner end portion mechanically attached to a radial nozzle of said turbine engine, a finger joggle extending radially outward from said radially inner end portion, and a radially outer end portion extending radially outward from said finger joggle and in contact with an aft scroll ring of said turbine engine; and
10 a plurality of ring joggles, each said ring joggle integral to said retainer ring, each said ring joggle positioned such that one said ring joggle is between each pair of adjacent said ring fingers.

22. A method of retaining a turbine scroll for a turbine engine comprising the steps of:

providing a turbine scroll retention ring, said turbine scroll retention ring comprising a retainer ring, a ring finger extending radially outward from said retainer ring, and a ring joggle integral to said retainer ring;
5 positioning said turbine scroll retention ring in contact with a radial nozzle of said turbine engine; and
mechanically attaching a radially inner end portion of said ring finger to said radial nozzle.

23. The method of claim 22, further comprising a step of providing at least one finger joggle integral to said ring finger.

24. The method of claim 22, further comprising the step of positioning a radially outer end portion of said ring finger in contact with an aft scroll ring of said turbine engine.

25. The method of claim, 22, wherein said step of mechanically attaching comprises bolting.

26. The method of claim 22, wherein said turbine scroll retention ring comprises a nickel-based alloy.